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ABSTRACT

The first in this group of four papers presents an innovative technique of profile analysis called Shape-Type Criteria of Profiles, which uses both the information inherent in the order in which the elements of a profile occur and the information contained in the magnitude of the profile elements themselves to provide objective measures of profile shape as well as objective measures of the elevation and scatter of that profile. The procedure and establishment of a taxonomy are described, and the testing of the technique's sensitivity to varying combinations of profile characteristics is reported. It is compared to three other methods of profile analysis: Product Moment Correlation, Sum of Squared Distances, and Ratio of Identical Scores. The second paper describes a study in which the new technique was successfully applied to determine if definitive cognitive profile types and definitive creative profile types existed in a sample of urban junior high school underachievers and if such profile types could be described on the basis of ccgnitive strengths and weaknesses. The third paper reports further application of the technique to establish profile types or groupings based on cognitive-creative variables. The fourth paper, a study on congruence and dissonance in the perceptions of Negro teacher trainees, is concerned with an analysis of personal needs and college press profiles (need-press profiles by class levels, sex, and honor point status). (JS)

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PROFILE ANALYSES: RATIONALES

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"Shape-Type Criteria of Profiles"

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"Application of Shape-Type Criteria of Profiles:
Profiles of Creativity and Profiles of Cognitive Factors."

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"Application of Shape-Type Criteria of Profiles:
Cognitive-Creative Profile Types."

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SHAPE-TYPE CRITERIA OF PROFILES

The technique presented in this paper uses both the information inherent in the order in which the elements of a profile occur and the information contained in the magnitude of the profile elements themselves to provide objective measures of profile shape as well as objective measures of the elevation and scatter of that profile. When used with a computer the technique will enable the user to identify clusters of individuals with similar profile characteristics from an unknown population, or to assign individuals to a group having known profile characteristics.

The rationale for the gamma technique of profile analysis is based on the characteristics of a profile. Traditionally, a profile is a two dimensional graphic representation of the set of measurements taken along the dimensions which describe the individual or the group. The vertical axis of the profile is scaled in terms which represent the scalar values of the profile elements themselves. The horizontal axis is ordered in the sequence in which the profile elements occur. Profile analysis techniques currently in use, whether they use a correlation coefficient, a distance function, or some other measure of profile similarity, do not make use of the sequence in which the profile elements occur. They use only the scalar values of the elements themselves. In fact, they are independent of the order in which the elements occur and will work equally well under any arrangement of the elements as long as the order remains invariant for the profiles during the time they are under consideration. The gamma technique makes use of both the order in which the elements occur and the scalar value of the elements thus doubling the amount of information about the profiles that is taken into account.

In this technique, the ordinary mean is computed using the values of the profile elements as measured on the vertical axis. Likewise, the standard deviation of the profile elements is based on the second moment about the mean calculated on the same axis. These are measures that have traditionally been used to describe the elevations and the scatter of a profile, and they are so used in this procedure. Two other measures are then derived which describe the shape of the profile. These are the gamma measures of skewness and kurtosis computed in terms of the Pearson curve-type criteria. This is accomplished by treating the profile as though it were a frequency distribution. This relates the value of the profile element to the numerical order in which the elements occur by treating the former as a frequency and the the latter as an interval in a distribution. The set of moments used in computing the gamma measures is not the same as the one used in deriving the mean and standard deviations. The former is oriented along the vertical axis while the latter is oriented along the horizontal axis.

The Procedure

The first step in establishing a taxonomy of the four shape-type criteria of profiles was to plot the elevation, scatter, skewness, and kurtosis of a field of profiles of known characteristics. The field consisted of 2400 five element profiles in sixteen different combinations of mean and standard deviation. Since every profile in each of the sixteen combinations had the same mean and standard deviation as every other profile it is obvious that the two measures of elevation and scatter did not discriminate among the profiles despite the fact that each profile was unique. The scattergrams of the gamma measures of skewness and kurtosis did discriminate among the configurations represented by the profiles within each of the sixteen combinations. Additional insights into the taxonomy were gained emperically by computing the measure of skewness and kurtosis for many profiles with known configurations and the limits of the dimensions in the taxonomy determined. The taxonomy of profile types used in this procedure is given in Table I. The ranges of the variables are trichotmized in this taxonomy because a procedured used later for comparison also uses trichotmized variables.

Table I

Levels of Four Dimensions in Profile
Shape-Type Taxonomy

Elevation	Scatter	Shape	
		Skewness	Kurtosis
Low	Low	Left ($\gamma_1 < -0.10$)	Cup ($\gamma_2 < -1.25$)
Average	Average	None ($-0.10 \leq \gamma_1 \leq +0.10$)	Flat ($-1.20 \geq \gamma_2 \geq -1.25$)
High	High	Right ($\gamma_1 > +0.10$)	Cap ($\gamma_2 > -1.20$)

The term "cup" and "cap" used in the taxonomy to describe kurtosis have been taken from mathematical set terminology to designate a convex and a concave profile configuration respectively.

The next step is to validate the procedure.

Sensitivity of the Technique to Varying Combinations of Profile Characteristics

The input data for testing the sensitivity of the shape-type criteria technique to various combinations of profile characteristics consists of two sets of thirty profiles each. The first set of profiles was systematically derived from three basic fifteen element profiles which had the same mean, different scatter, and different shapes, and from which a set of thirty profiles was derived having various combinations of elevation, scatter, and

shape. This made it possible to study the effects on the shape-type criteria of permitting one or more of the three profile characteristics of elevation, scatter, and shape to vary while the others were held constant. Forty-six subsets were listed in five different combinations of the three profile characteristics, the shape-type criteria computed and these criteria compared for the profiles within the subsets. Among the 141 profiles which were compared within the subsets there were twenty-one "errors" where one of the four shape-type criteria was in error in classifying the profile according to the characteristics for that subset. A second set of thirty profiles was contrived in the same manner as was the first set but the three basic profiles had thirty elements each. This procedures was performed to answer a question whether the shape-type criteria technique was still effective when the number of elements in the profile is increased to a large number--specifically to double the number of elements used in the first analysis. The results of the two preceding analyses are given in Table 2.

Table 2

Results of Classification of Subsets of Profiles of Known Characteristics Taken from the Sets of Thirty Profiles

Characteristic			Number of Profiles	Errors	
Elevation	Scatter	Shape		15 Element Profiles	30 Element Profiles
Same	Same	Same	None		
Same	Same	Diff.	30	11	1
Same	Diff.	Same	None		
Same	Diff.	Diff.	30	0	2
Diff.	Same	Same	27	1	3
Diff.	Same	Diff.	27	9	1
Diff.	Diff.	Same	None		
Diff.	Diff.	Diff.	27	0	1
	Totals		141	21	8

The shape-type technique is effective in discriminating ammng all three characteristics of a profile and continues to be effective when the number of profile elements becomes large. The apparently large numbers of errors in the second and sixth comparisons for the fifteen element profiles is due primarily to the gross way in which the criteria in the taxonomy were divided into only three intervals. In nearly every case where an "error" occurred, the measure of skewness for the profile was

very near or equal to the value arbitrarily selected to divide this measure into three parts.

Comparison of the Shape-Type Technique with Three Other Methods of Profile Analysis

In order to examine the effectiveness of the shape-type criteria technique, when compared to other techniques of profile analysis, three representative procedures were applied to a known set of profiles along with the shape-type criteria procedure. The profile data set used as input for this analysis consisted of the algebraic measures derived for the set of ninety geometric solids used by Helmstadter in his dissertation at the University of Minnesota. One-third of these solids were spheres, one-third were right circular cylinders, and one-third were regular tetrahedrons. For reference, a centroid or group profile was computed for each of the three groups of geometric solids.

Since many techniques for classifying profiles use a correlation coefficient in their application, one of the three methods selected for categorizing the profiles was the product moment correlation coefficient. Each of the ninety profiles in the sample was correlated with each of the three centroid profiles. Each profile was then assigned to that group represented by the centroid profile which correlated most highly with the profile under consideration. Another widely used basic procedure in classifying profiles is the use of a variation of the squared distance between corresponding profile elements. For this reason, this method was the second one applied to the profiles. The sum of the squared distances was computed for each profile when it was compared to the three centroid profiles in turn. Each of the ninety profiles was assigned to one of the three groups for which the sum of the squared distances between the profile and the centroid was least. The third technique used for classifying the profiles into one of the three groups was Zubin's ratio of identical scores with trichotomized variables. In this procedure each of the ninety profiles as well as the three criterion profiles were restated in terms of the trichotomy established for each of the nine profile elements. The sample profiles were then compared in turn with each of the three criterion profiles and the sample profile assigned to the group corresponding to that centroid profile with which the sample profile had the highest ratio of identical scores to total scores. The result of the comparison of efficiency in properly classifying the ninety profiles by the different procedures are given in Table 3.

Table 3

Results of the Comparison of the Shape-Type Technique with Three Other Techniques of Profile Classification

Method	Percent of Successes
Product Moment Correlation	84%
Sum of Squared Distances	89
Ratio of Identical Scores	64
Shape-Type Technique	76

The percent of successes, in each case, is based in the percentage of the ninety profiles which were correctly assigned to the proper group by using the particular method. The shape-type criteria technique compares very favorably with the other three. It is particularly encouraging to note that the shape-type criteria technique compares very favorably with the Ratio of Identical Scores technique. Both of these methods used discrete rather than continuous intervals for classification, and are both based on trichotomized variables. While there are only eighty-one possible combinations of the shape-type criterion, the ratio of identical scores make possible 729 combinations of the three levels of nine elements giving it nine times as good a chance to make a successful assignment as was enjoyed by the shape-type criteria.

Application of Shape-Type Criteria of Profiles
Profiles of Creativity and Profiles of Cognitive Factors

Introduction

The investigations presented have two major objectives. One objective was to apply the innovative technique of profile analyses called shape-type criteria of profiles. The second objective was to determine if definitive cognitive profile types and definitive creative profile types existed in a sample of urban junior high school underachievers and if such profile types could be described on the basis of cognitive or creative strengths and weaknesses. If such strengths and weaknesses exist, the question is whether the results have any implications for planning learning experiences for the underachieving child.

A hypothetical question examined in both investigations was whether the underachieving junior high school student would display strengths in the experimental variables as opposed to weaknesses displayed in the commonly used achievement and aptitude measures.

In each investigation the data record for each pupil included achievement and aptitude scores, socio-economic data, and counselor ratings. The experimental variables for measurement of creativity were the seven scores obtained from the Torrance Tests of Creativity: Verbal Fluency, Verbal Flexibility, Verbal Originality, Figural Fluency, Figural Flexibility, Figural Originality, and Figural Elaboration. The experimental variables for measurement of cognitive factors were fourteen selected measures from the Kit of Reference Tests for Cognitive Factors provided for research purposes by Educational Testing Service. The factors measured were:

1. Flexibility of Closure
2. Speed of Closure
3. Word Fluency
4. Length Estimation
5. Associative Memory
6. Auditory Memory Span
7. Numbered Facility: Addition
8. Numbered Facility: Division
9. Numbered Facility: Subtraction/ Multiplication
10. Perceptual Speed
11. General Reasoning
12. Spatial Scanning
13. Semantic Spontaneous Flexibility: Utility Test
14. Semantic Spontaneous Flexibility: Object Naming

Application of Shape-Type Criteria of Profiles

The technique of shape-type criteria of profiles results in the computation of four criterion measures for each single data record. The four measures; mean (elevation), standard deviation (scatter), skewness, and kurtosis; describe the individual pupil profile without reference to other profiles. The technique is further extended by offering the facility for clustering profiles similar not only in elevation and scatter but similar in skewness and kurtosis. The steps taken to apply this technique are briefly outlined as follows:

1. All data records were converted to standard scores with a mean of 50 and a standard deviation of 10. The four criterion measures were computed.

2. Quartiles for the distribution of each of the criterion measures were computed. Each data record became four single digit numbers representing the quartiles into which each of the four criterion measures had fallen.

3. The individual data records, now profiles, were sorted into groups with similar patterns of measures based upon quartiles. The patterns of measures became a combination of the quartiles with accompanying descriptive terms.

Quartile	Elevation	Scatter	Skewness	Kurtosis
4	High	High	Right	Cap
3	High-Average	High-Average	Right-None	Cap-Flat
2	Low-Average	Low-Average	Left-None	Cup-Flat
1	Low	Low	Left	Cup

The pattern of measures was allowed to vary one quartile for the four measures in grouping the profiles.

This procedure was applied in both investigations to the total data records for the samples and to the data records of experimental variables only. After the two types of profiles were clustered into the fewest possible groups of similar profiles, the data records, both total and experimental, of the pupils in each cluster were examined for common strengths and weaknesses.

Results

Application of shape-type criteria of profiles possesses the facility to allow for description of individual profiles and for clustering of similar profiles. An additional dimension was the identification of different types of students heretofore considered homogeneous. This dimension appeared in both the profile types based on total data records and in profile types based on experimental variables only.

The study (N=146) utilizing measures of creativity as experimental variables yielded twenty-five clusters of similar profiles based on total data records and twenty-two clusters of similar profiles based on creativity measures only.

Three representative clusters based on total data are described here.

Type	Elevation	Scatter	Skewness	Kurtosis
I	High-High Average	High-High Average	None-Right	Cap
XI	High Average-Low Average	Low Average-Low	None	Cap
XXIV	Low Average-Low	Low Average-Low	None	Flat Cup

In Type I, the pupils were generally above the group mean on standardized tests, somewhat dissimilar in socio-economic data, similar in counselor ratings, and exhibited variations in measures of creativity. In Type XI, pupils were below the group mean on standardized tests, generally similar on socio-economic data and counselor ratings, and exhibited variation in measures of creativity except for an obvious strength in Figural Originality. Type XXIV can be described as having students below average in standardized tests, similar in socio-ecomomic data and counselor ratings, and as exhibiting variations in creativity except for a strength in Figural Flexibility.

Three representative clusters based on creativity only are described below:

Type	Elevation	Scatter	Skewness	Kurtosis
I	High-High Average	High-High Average	None-Right	Flat Cap
XII	High Average-Low Average	Low Average-Low	None	Flat Cup
XXII	Low Average-Low	Low Average-Low	None-Left	Flat Cup

In Type I pupils are above the mean except for some variations in Figural Originality and with slightly more strength in verbal measures than in figural measures. In Type XII measures of creativity group about the mean with a slight tendency to show more strength in verbal measures. In Type XXII the measures of creativity are generally below the mean with some strength exhibited in Figural Elaboration.

In the study utilizing measures of cognitive factors application of shape-type criteria of profiles yielded twenty-one clusters based on total data and eighteen clusters based on cognitive factor measures only.

Representative clusters of profiles based on total data are described below.

Type	Elevation	Scatter	Skewness	Kurtosis
I	High Average-High	High Average-High	None-Right	Cap
XI	Average	Low Average-Low	None-Left	Flat-Cup
XXI	Low	High	None-Right	Flat

Type I cluster exhibits achievement and aptitude scores above the group mean, similar counselor ratings, variations in the educational level and employment status of parents, and variations in cognitive factors with no apparent strengths or weaknesses. The profiles in Type XI have data records that are grouped about the mean on standardized tests, are similar in socio-economic data and counselor ratings, and exhibit some strength in Associative Memory, Auditory Memory Span, Addition, Subtraction and Multiplication, and Perceptual Speed. Type XXI profiles are below the group mean in achievement and aptitude, similar in socio-economic data except for the number of elementary schools attended, demonstrate variations in counselor ratings with several very low ratings, and have definite weaknesses in the cognitive factors measuring Number Facility.

The profile types representing cognitive measures only can be illustrated by the three types described in the next paragraphs.

Type	Elevation	Scatter	Skewness	Kurtosis
I	High Average-High	High Average-High	None-Right	Cup
XI	Low Average-Low	High Average-High	None-Right	Cap
XVIII	Low Average-Low	Low Average-Low	None-Left	Cup

Profiles found in Type I have cognitive factor scores generally above the means for the sample. Strengths are found in Speed of Closure, Length Estimation, and Semantic Spontaneous Flexibility. The weaknesses are found in Number Facility and Auditory Memory Span. In Type XI the scores are above and below the sample mean and show great variation. The obvious strengths are in Length Estimation and Associative Memory. Weaknesses are displayed in Word Fluency, Division, and Perceptual Speed. Type XVIII can be described as having profiles with scores below the sample means except for the measures of General Reasoning and Spatial Scanning. The three measures of Number Facility demonstrate the greatest weakness for this cluster.

Summary

In both investigations it was assumed that the subjects were homogeneous. The application of shape-type criteria of profiles and the utilization of the measures on cognitive factors and creativity demonstrated that the degree of homogeneity assumed was not an actuality.

It was demonstrated that clusters of pupils did display varied patterns of strengths and weaknesses which could be a foundation for planning learning experiences that would capitalize on strengths. Furthermore, the technique of shape-type criteria of profiles as applied in the two studies isolated and helped to describe differences among clusters of children that would not have been evident if the traditional approach to profiles of student data had been used.

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1. Dent, Paula A. "Creativity in Inner-City Children, in Relation to Aptitude, Achievement and Background." Unpublished Doctoral dissertation, Wayne State University, 1969.

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Application of Shape-Type Criteria of Profiles

Cognitive-Creative Profile Types

Introduction

During the studies which led to the establishment of profile types for cognitive factors and for measures of creativity, it became evident that a certain segment of the population tested would yield scores on both groups of experimental variables. This segment of students (N=62) became the basis for an adjunct investigation which led, in turn, to the establishment of groupings or types for what we chose to call the "Cognitive-Creative Profile Types."

Methodology

The establishment of profile types based on the variables included in the Kit of Reference Tests for Cognitive Factors and the Torrance Tests of Creative Thinking was based on the premise that these profiles would establish reference points for grouping and/or individualizing instruction which would not be isolated by examining standardized test scores.

As in the establishment of profile types for cognitive factors only, and for creativity only, the cognitive-creative profiles were created in a series of steps.

1. All data records were converted to standard scores with a mean of 50 and a standard deviation of 10. By means of an IBM 360 program written for the shape-type technique, the four criterion measures of mean, standard deviation, skewness and kurtosis were computed for each subject (N=62).

2. Each of the criterion measures was divided into quartiles, and numbered accordingly. Results of this operation were to represent each measure by the single-digit number of the quartile into which the measure had fallen.

3. Individual data records were divided into groups with similar patterns of measures. Such a grouping might be:

Mean	S.D.	Skewness	Kurtosis
4	1	2	4

This was read as high, low, low-average and high. An interpretation of this would be high elevation (mean), low scatter (standard deviation), skewed to the left slightly, and cap-shaped kurtosis.

In interpreting this type of profile analysis, scores ranged from a high of 4 to a low of 1 for both mean and standard deviation. Skewness in the fourth quartile would be read as skewed right, while a first quartile skewness is skewed left. Cap-shaped kurtosis generally denotes that the scores for the data record are above the mean, while cup-shaped kurtosis indicates scores below the mean. A slight linear relationship exists between the criterion measures of mean and kurtosis.

To group students into clusters of similar profiles, the measures were each allowed to vary one quartile.

4. Each group of similar profiles was given a type number. The enumerated steps were completed for two sets of profiles for the subjects in the study. Profiles were clustered on the basis of total data records and on the basis of the cognitive-creative measures.

Subjects clustered into twelve profile types, based upon the total data records. Descriptions of the profile types are as follows:

Total Data Records

Type	Elevation	Scatter	Skewness	Kurtosis
I	High-High Average	High-High Average	None-Right	Flat Cap
II	High-High Average	High	Right	Flat Cup
III	High-High Average	High-High Average	None-Left	Flat Cap
IV	High-High Average	High-High Average	None-Left	Flat Cup
V	High-High Average	Average	None-Left	Flat Cup
VI	Average	Low Average-Low	None-Left	Flat Cap
VII	Average	Low Average-Low	None	Flat Cup
VIII	Low Average-Low	Low Average-Low	None-Left	Flat Cap
IX	Low Average-Low	Average	None-Left	Flat Cup
X	Low Average	High-High Average	None	Cup
XI	Low Average-Low	High-High Average	Right	Cap
XII	Low Average-Low	Low	None	Flat

Subjects clustered into thirteen profile types, based upon the cognitive-creative measures.

Cognitive-Creative Data Records

Type	Elevation	Scatter	Skewness	Kurtosis
I	High-High Average	High-High Average	None-Right	Flat Cap
II	High-High Average	High-High Average	None-Right	Flat
III	High-High Average	High-High Average	None-Left	Flat Cap
IV	High	High-High Average	Left	Flat Cup
V	Average	Average	None	Flat
VI	Average	Average	None	Cup
VII	High-Average	Left	None-Right	Flat Cap
VIII	Average	Low Average-Low	Left	Cup
IX	Low Average-Low	Low Average-Low	None-Left	Flat
X	Low Average-Low	Low Average-Low	None-Right	Flat Cap
XI	Low Average-Low	High-High Average	Right	Cup
XII	Low Average-Low	High Average	Left	Flat
XIII	Low	Low Average-Low	None	Flat Cap

Each profile type was checked to examine similarities. A sampling of profiles for total data revealed the following:

Type I (Total): Standardized test scores are similar, with most scores at or above the mean. Background data is generally similar, with the greatest variation occurring on the family size variable. Teacher concept shows great similarity, with 94 percent of the scores at or above the mean. Cognitive-creative variables are very dissimilar for this profile type.

Type VI (Total): Scores for standardized tests group around the mean, with little agreement in background data, but a great similarity in teacher concept of pupil. Cognitive-creative variables are dissimilar, but cognitive variables show some agreement with standardized tests.

Type XII (Total): Standardized test scores are at or below the mean, as are background and teacher concept variables. Cognitive-creative variables are similar, but cognitive variables show more agreement with standardized tests than do the creativity variables.

A sampling of the profile types for the cognitive-creative variables reveals the following:

Type I (C-C): Cognitive variables cluster above the mean, with few exceptions. Creative variables, however, cluster below the mean. Standardized tests show great agreement with the cognitive variables.

Type IX (C-C): Cognitive and creative variables are generally below the mean, with two notable exceptions in creativity, whose scores are slightly above the mean. Standardized tests group slightly below the mean.

Type XIII (C-C): Scores for all three groupings--cognitive, creative and standardized tests--are in substantial agreement in that they are below the mean.

Summary

To summarize, it was the intent of the study to establish profile types or groupings based on cognitive-creative variables. It was postulated that these groupings could provide critical and conceptual guidelines for instructional purposes which would not be isolated on the basis of standardized tests alone.

It should be noted that total data did isolate students into groupings. However, on all total data profile types, cognitive and creative variables were not in agreement with standardized test variables. When typed on the basis of cognitive-creative variables, however, the standardized tests showed substantial agreement with the cognitive-creative. It would seem, on the basis of these findings, that a grouping based on cognitive-creative variables picks up minute details, and also agrees with similar standardized test details, which provides a firmer diagnosis of strengths and weaknesses in the subject than does a grouping based on standardized tests and background data alone.

By using the shape-type criteria of profiles, students with like-type data records can be identified as a group. Profiles so developed may be utilized as a means of individualizing instruction, building on the identified strengths and weaknesses of the subjects in each group. Diagnosis, prescription, and sequential learning experiences could all benefit from the use of this approach.

References

1. Dent, Paula A. "Creativity in Inner-City Children, in Relation to Aptitude, Achievement and Background." Unpublished Doctoral dissertation, Wayne State Univeristy, 1969.

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ON CONGRUENCE AND DISSONANCE IN THE PERCEPTIONS OF NEGRO TEACHER TRAINEES

Preliminary Statement

Traditionally, little or no credence has been given to views which students held about college life. This study, however, departs from the conventional modes of viewing college life by subscribing to the thesis that college life is a function of the need-press rapport of the college milieu as perceived by students. Indeed, such perceptions are the precursors of individual and group behavior in many facets of the college environment; they arise from the interaction of personal needs and college press in terms of fulfilling or thwarting individual ambitions, goals, and drives, and in coping with other idiosyncracies of students. It follows, then, that it is of crucial importance to employ a methodology with assesses need-press patterns of the college environment as perceived by students in attendance. Simply stated, the students' perceptions of themselves in relationship to institutional press - administrative policies, academic regulations, social rules, and their concomitants - are seen as the crucial determinants of behavior. This is relatively speaking, an innovative way of viewing college life, and holds a greater possibility of illumining student behavior in the college milieu. Moreover, it implies that the functional college environment is consonant with what students say it is, and not what the "establishment" says it is.

The Problem

Basically, this study was concerned with an analysis of personal needs and college press profiles of Negro teacher trainees at Fayetteville State University, Fayetteville, North Carolina. More specifically, a central notion concerning the need-press profiles of these subjects was: the longer students had experienced the college environment, the greater would be the similarity between need-press profiles. This implied that any index found between need-press profiles in the successive order of examining freshmen, sophomore, junior, and senior classes would be declining. A relatively small index was designated as congruent, and a relatively large index was referred to as dissonant. It should also be noted that in analyzing the perceptions which these subjects held about themselves and their college press, inquiry centered around need-press profiles by class levels, sex, and honor point status.

Sources of Data and Methodology

In order to analyze the perceptions which the 296 subjects involved in this study held about themselves and their college milieu, the Stern Activities (AI), and College Characteristics (CCI) indices were employed. Each of these instruments has 30 scales which are descriptive of personal needs and college press; the constructs which make-up each instrument are identical, but the Activities Index measures personal needs, and the College Characteristics Index measures college press. In each index, the subjects responded to the 10 items included in each of the 30 scales or 300 responees for each instrument. These responses were statistically computed in terms of: (1) distance coefficients (D^2) to ascertain congruency of dissonancy between personal needs and college press; (2) phi-coefficients to show the relationships between honor point averages, sex, and classification; (3) Means and Sigmas of the Fayetteville and Stern study groups for comparative purposes, and (4) factor and item analyses to ascertain the basic need-press profiles of the Fayetteville study group.

Major Findings

The major findings of this study revealed that the need-press patterns of this Negro college population tended, in general, to be dissonant. Specifically, analysis of the need-press profiles showed the following results:

1. Distance coefficients ranged from 8.43 to 27.15 with the freshmen, sophomore, junior, and senior classes having mean distance coefficients of 13.11, 15.65, 15.33, and 15.62 respectively. Instead of decreasing from lower to upper class levels as was hypothesized, the distance between need-press profiles actually increased for the three upper class levels. The freshmen class had the only distance coefficient between needs and press that could be classified as congruent. The distance coefficients for the sophomore, junior, and senior classes closely approximated each other, and were interpreted as indicating dissonance between personal needs and college press.

2. Distance coefficients in relationship to high honor point averages by class levels, and sex tended to be distinctly dissonant for all class levels with the exception of the senior class. Specifically, it should be noted that: (a) Phi-coefficients for the three lower level classes revealed that in each instance, there was an increase in dissonance with high honor point averages, and an increase in congruence with low honor point averages. These findings were, of course, inconsistent to expectations, (b) In comparing phi-coefficients, in four cases out of five groups - the total group, freshmen, juniors and seniors - the females have lower correlations than the males: the sophomore class was the one exception. This suggests that the female group, as a whole, shows a slightly greater convergence between need-press patterns than is shown by the male group, and (c) Congruence between high honor point averages and need-press only occurred at the senior class level. This seems to suggest that it requires four years for such a convergence to take place.

3. The means and sigmas for the Stern and Fayetteville study groups indicate that the Fayetteville group was more alike with reference to their personal needs and their perceptions of college environment than was the Stern group. Although there were some similarities between the two groups, each group resembled its own press more than it resembled the press of the other.

4. Factor and item analyses reveal that there is more dissonance than congruency between self-perceptions and environmental perceptions for the Negro college population.

Recommendations

In general, the findings of this study strongly suggest that these Negro college students do not find the kinds of experiences in the college environment that are consonant with their personal needs. As an initial start toward alleviating this condition, the following recommendations are made:

1. A concerted effort should be made to bring the goals of the college more in line with student needs or the college must necessarily modify the perceptions which students hold with reference to their college environment.

2. Periodic self-examination of administrative procedures, personnel policies, classroom practices, and interpersonal relationships should become a vital aspect of the total program of the college.

3. The counseling and guidance program needs to be objectively assessed in terms of whether or not it actually serves to help students solve and cope with their personal problems.

4. The need-press profiles of this study group reveal consistent patterns of rejection, introversion, and submissiveness. Obviously, ways must be found to eliminate these kinds of infantile tendencies.

5. Finally, the periodic assessment of the total college program must become a joint endeavor which utilizes the energies and abilities of students, instructors, administrators, and non-teaching personnel alike.